

# Yash Akhauri



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## EDUCATION

### **BITS PILANI | B.E. IN ELECTRONICS AND INSTRUMENTATION**

Aug 2016 - May 2020 | RJ, India

Fluent: Python3, PyTorch, Mathematica

Familiar: C++, Java, CUDA, OpenMP, Tensorflow, Android Studio, LibGDX, Docker

## EXPERIENCE

### **INTEL | RESEARCH SCIENTIST**

Jun 2020 | Bengaluru, IN

- Research Scientist at the Cloud Systems Research (CSR) Lab in the Systems and Software Research (SSR) Group.

### **XILINX RESEARCH | VISITING RESEARCHER**

Aug 2019 - May 2020 | Dublin, Ireland

- Developed a library for co-design of neural network topologies and reconfigurable hardware that maps to an efficient FPGA implementation without the need for a custom accelerator architecture or a scheduler.
- Targeted the Jet Substructure Classification task as part of CERN LMS L1 trigger experiments, used the library to deploy models with 10× lower latency than FPGA4HEP designs. Demonstrated quantization library Brevitas to CERN [GitHub].

### **URANIOM | RESEARCH INTERN**

Jan 2019 - Jul 2019 | France (Remote)

- Implementing semantic segmentation models for face transfer across GIFs, progressive GANs for realistic UV map generation and exploring effective weight-sharing strategies for neural networks under a research collaboration.

### **WOLFRAM | UNDERGRADUATE RESEARCHER**

June 2018 - July 2018 | Waltham, Massachusetts

- Developed HadaNet MLPs in the Wolfram Language and worked on C OpenMP kernels for GEMM and Convolutions using the Hadamard Binarization algorithm. [OpenMP kernel] | [CUDA kernel] | [Whitepaper]

## PAPERS & GRANTS

### **LOGICNET: CONSTRUCTING NEURAL NETWORKS FROM TRUTH TABLES**

ARKANSAS | MAY 2020

Paper accepted at FCCM'20 as a poster presentation.

### **HADANETS: FLEXIBLE QUANTIZATION STRATEGIES FOR NEURAL NETWORKS** [Link]

CALIFORNIA | JUN 2019

Paper accepted at CVPR'19 UAVision workshop - Orals.

Delivered a "Theatre Talk" and poster at the Intel Demo Booth at CVPR'19.

### **WOLFRAM TECHNOLOGY CONFERENCE – SPEAKER**

CHAMPAIGN, IL | OCT. 2018

Delivered a talk on my research on Hadamard Neural Networks.

### **INTEL NERVANA EARLY INNOVATORS GRANT**

\$5000

Received research grant to develop Binary Precision Neural Networks and Real time Artistic Style Transfer. The technical article can be found [here.] The code can be found [here.]

### **INTEL CVPR TRAVEL GRANT**

\$3000

### **WOLFRAM STUDENT AID**

\$2400

Received aid to attend the Wolfram Summer School and develop Hadamard Binary Neural Networks.

### **INTEL AI MEETUP – SPEAKER** [PPTx] [ARTICLE]

DELHI, IN | SEPT. 2018

Spoke about my research on scaling AI using Intel technologies. This event was organized by Intel.

### **INTEL AI DEVCON – POSTER**

SAN FRANCISCO, BANGALORE | MAY & AUG 2018